INHALED AEROSOL MEDICATION TREATMENTS	**CS-04-03-11**	Page 1 of 10
Related terms:	**Date Established:** September 2010	**Dates Revised:**
Authorized by: Clinical Directors	**Date For Review:** September 2013	

RATIONALE

To provide guidelines for the administration of aerosol medication treatments.

APPLICABILITY

RN, LPN, RRT, HCA (trained in medication delivery)

DEFINITIONS:

Aerosol Medication: Refers to wet nebulizer, metered dose inhaler (MDI), and dry powder inhaler (DPI) medication.

POLICY

1. A physician's order is required for aerosol medication and is to include the name of the drug, dosage, device and frequency of administration.

2. The administration of aerosol medication treatments and associated assessments is the responsibility of the RN, LPN, or RRT. Trained HCAs who are assisting with medication delivery at selected sites may deliver aerosol medications by MDI and DPI.

Wet Nebulizer

GUIDELINES

Indications for wet nebulization of medications:

- When large doses of drug must be administered i.e. initial therapy for acute severe asthma.
- When the client is too ill or unable to use an MDI or DPI.
    - Physical limitations of extremities (weakness, pain or lack of coordination).
    - Mental limitations (disoriented, confused or insufficient cognitive ability).
- When the drug is unavailable for delivery by MDI or DPI.

- When the client is using a wet nebulizer at home.

WET NEBULIZER GUIDELINES (cont'd.)

Indications for using mouth piece:

- Administration of ipratropium bromide (Atrovent) could potentially exacerbate glaucoma if given by mask.

Indications for using mask:

- When the client is too ill or unable to use a mouthpiece.

EQUIPMENT

Air flowmeter or air compressor

Small volume nebulizer set (includes mouth piece and oxygen tubing)

Medication as ordered

Aerosol mask (optional)

PROCEDURE

1. Check the physician's orders.
2. Inspect and attach air flowmeter to the wall attachment where available or obtain an air compressor.
3. Perform a respiratory assessment.
4. Position client in semi-fowler's position or upright position.
5. Attach small volume nebulizer to tubing, and attach tubing to air flowmeter or air compressor.
6. Place a piece of masking tape on nebulizer bottle with current date.
7. Fill small volume nebulizer with medication. Do not exceed 5 mL of medication per treatment.
8. Set air flowmeter high enough to get a good mist approximately 5-7 litres/minute or turn on air compressor.
9. Administer nebulizer therapy by mask or mouth piece.
10. Instruct client to:
    - take slow, deep breaths
    - pause at the end of inspiration and
    - exhale in a normal, relaxed manner
11. If treatment includes use of a corticosteroid or non-steroidal, instruct client to rinse mouth and gargle with water at completion of treatment to prevent hoarseness, throat irritation, and oral candidiasis. Instruct client to **not** swallow rinse water.
12. Perform a respiratory assessment.

WET NEBULIZER PROCEDURE (cont'd.)

13. Document medication administration and client's response.
14. Rinse the small volume nebulizer daily with sterile water and change wet nebulizer equipment weekly. Discard wet nebulizer equipment on client discharge. Remove air flowmeter from the wall, disinfect and return to the clean holding room in a bag. Remove portable air compressor, disinfect and return to storage area.

MDI/Spacer

POINTS OF EMPHASIS

This is the preferred method of delivery of inhaled medication.

EQUIPMENT

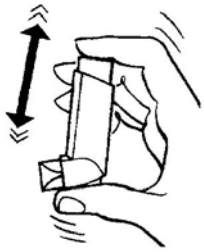
Metered-dose inhaler

Medication as ordered

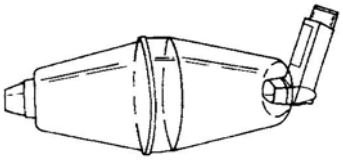
Spacer

MDI/SPACER PROCEDURE

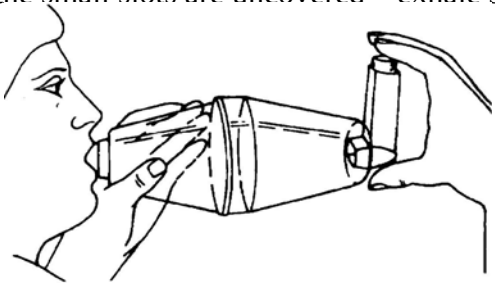
1. Remove cap from inhaler and spacer mouthpiece.
2. Shake inhaler well.



3. Place inhaler mouth piece in large hole in spacer.

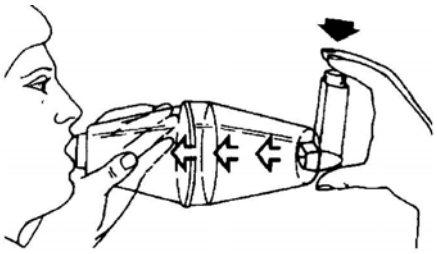


4. Place spacer mouthpiece in mouth closing lips around it, while making sure that the small slots are uncovered – exhale slowly and fully.



MDI/SPACER PROCEDURE (cont'd.)

5. Depress the canister.



6. Inhale slowly and fully.
7. Hold breath for 4-10 seconds.
8. If more than one puff is required at each dose, wait for at least 30 seconds then shake the spacer/inhaler before repeating steps 4 to 7.
9. If steps 6 and 7 cannot be completed, inhale and exhale normally three or four times through the spacer – medication will not be lost.
10. Deliver medication in the following order:
    - bronchodilator
    - anti-inflammatory
11. If treatment includes use of a corticosteroid or non-steroidal, instruct client to rinse mouth and gargle with water at completion of treatment to prevent hoarseness, throat irritation, and oral candidiasis. Instruct client to **not** swallow rinse water.
12. Replace cap on inhaler mouth piece.
13. Document procedure and client response.
14. Send spacer with client on discharge.

MDI/Spacer with Mask

GUIDELINE

This device is indicated for a client using an MDI but unable to use a mouthpiece.

EQUIPMENT

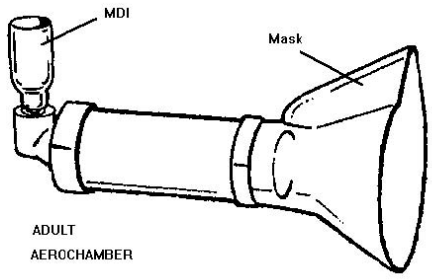
Metered-dose inhaler

Medication as ordered

AeroChamber® Spacer with Adult Mask

MDI/Spacer with Mask

PROCEDURE



1. Remove inhaler mouthpiece cap.
2. Shake inhaler well.
3. Place inhaler mouthpiece in large hole in rubber ring of spacer with mask.
4. Place mask over nose and mouth, check that the seal is complete by watching for movement of top membrane during practice breath.
5. Exhale slowly and fully.
6. Depress canister.
7. Inhale slowly and fully. If inhaling too quickly, an audible whistle will be heard.
8. Hold breath for 4-10 seconds.
9. If steps 6-8 cannot be completed, hold mask in place for at least six breaths. The membrane on mask moves with each breath – this is the easiest way to indicate the number of breaths taken.
10. Wait for at least 30 seconds and shake the spacer/inhaler before repeating steps 3 to 9.
11. Deliver medications in the following order:
    - bronchodilator
    - anti-inflammatory
12. If treatment includes use of a corticosteroid or non-steroidal, instruct client to rinse mouth and gargle with water at completion of treatment to prevent hoarseness, throat irritation, and oral candidiasis. Instruct client to **not** swallow rinse water.
13. Replace cap on inhaler mouth piece.
14. Document medication administration and client response.
15. The MDI/spacer with mask is a single client use device. If visibly soiled, clean with soap and water and allow to air dry. Discard on discharge or send home with client if to continue on treatment.

Diskhaler®

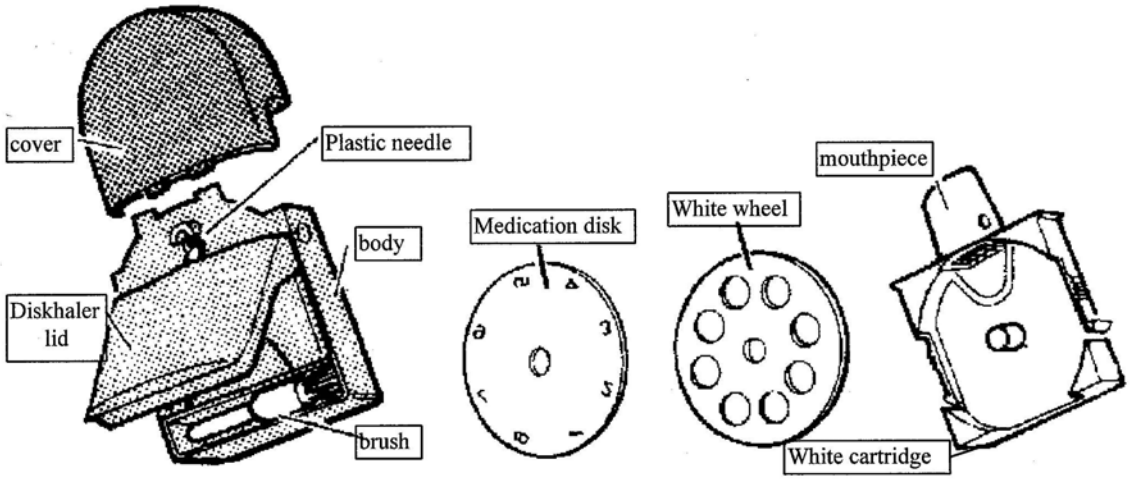
GUIDELINE

In order to use this device the client must be able to generate a strong breath in and hold their breath for at least four seconds.

EQUIPMENT

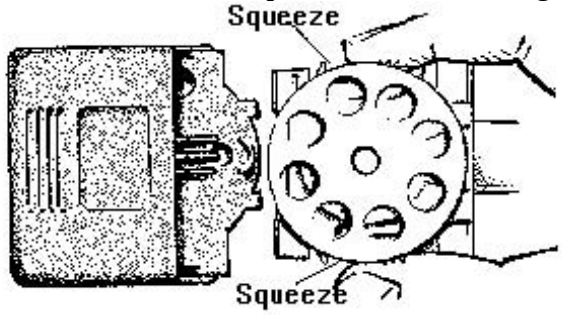
Diskhaler®

Medication Disk



DISKHALER® PROCEDURE

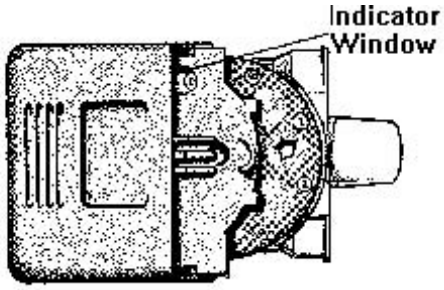
1. Remove the colored cover and ensure that the mouthpiece is clean.
2. Pull out the white cartridge until the ribbed sides of the cartridge are visible, then squeeze the ribbed sides and pull the entire cartridge out of the Diskhaler® device.



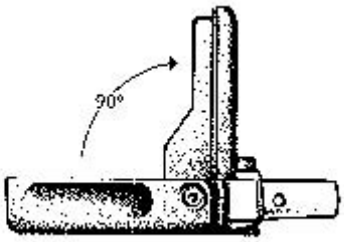
3. Place the disk on the wheel with the numbers facing up and slide the cartridge back into the device body.

DISKHALER® PROCEDURE (cont'd.)

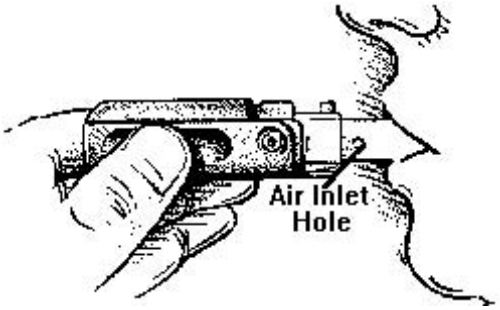
4. Mechanically rotate the disk, by gently pushing in and pulling out the loaded cartridge, until the number '8' appears in the side indicator window.



5. Hold the device firmly in a level position. Lift the Diskhaler® lid into the fully upright position and then close the lid, ensuring that the blister has been pierced.



6. While keeping the device level, exhale completely then place the Diskhaler® in mouth, ensuring that the air inlet holes on the mouth piece are not covered.



7. Inhale quickly and fully and hold breath for 4-10 seconds after the device is removed from mouth.
8. If another dose is required, wait 30 seconds then pull the cartridge out once and push in once to rotate disk to the next number. Repeat steps 5 to 7.

DISKHALER® PROCEDURE (cont'd.)

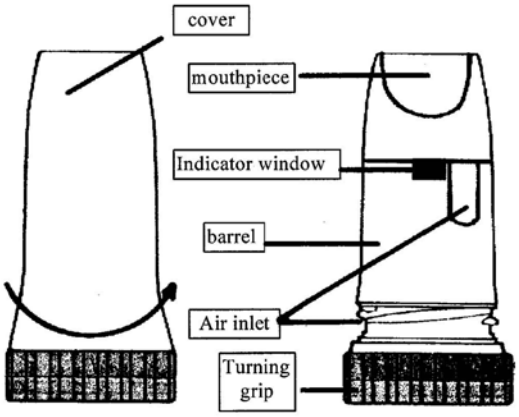
9. If treatment includes use of either a corticosteroid or non-steroidal, instruct client to rinse mouth and gargle with water at completion of treatment to prevent hoarseness, throat irritation, and oral candidiasis. Instruct client to **not** swallow rinse water.
10. Rotate the disk to the next dose ensuring that the blister is not pierced until immediately before inhalation.
11. Document medication administration and client response.
12. To clean any remaining powder, a small brush is provided under the device lid. Remove the cartridge and wheel before using brush. Do not throw away the wheel when disposing of empty medication disk.
13. The Diskhaler® is a single client use device. Discard on discharge or send home with client if to continue on treatment.

<u>Turbuhaler</u>®

GUIDELINE

In order to use this device the client must be able to generate a strong breath in and hold their breath for at least four seconds.

EQUIPMENT

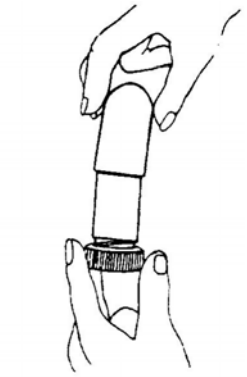


Turbuhaler®

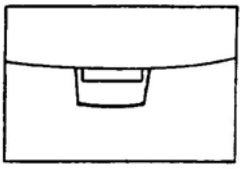
Prescribed medication

TURBUHALER® PROCEDURE

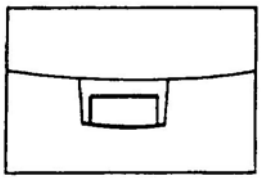
1. Unscrew and remove the cover. If the client accidentally drops or exhales into the Turbuhaler®, the dose will be lost, therefore a second dose will have to be loaded.



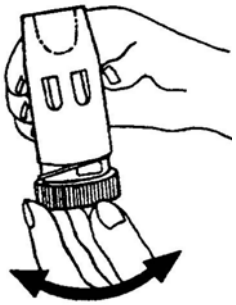
When the red mark just appears at the top in the window, the inhaler has about 20 doses left.



When the red mark reaches the bottom of the window, the inhaler is empty.



2. Hold the inhaler upright and turn the colored grip to the right as far as it will go, then back to the left until it clicks.



TURBUHALER PROCEDURE (cont'd.)

3. Exhale quickly but fully, away from the device. Place the inhaler mouthpiece in mouth.

4. Inhale quickly and fully, remove the inhaler and hold breath for 4 to 10 seconds.
5. If a second dose is required, wait at least 30 seconds then repeat steps 2 to 4.
6. Replace the cover when finished.
7. If treatment includes use of either a corticosteroid or non-steroidal, instruct client to rinse mouth and gargle with water after inhalation of corticosteroid to prevent hoarseness, throat irritation, and oral candidiasis. Instruct client to **not** swallow rinse water.
8. Document medication administration and client response.
9. The Turbuhaler® is a single client use device. Discard on discharge or send home with client if to continue on treatment.

REFERENCES

Calgary Regional Health Authority. (1999) *Medication, Inhaled Aerosol Treatments – Adult* #M-2 Acute Care Nursing Policy and Procedure Manual.